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10/529,067	01/06/2006	David Wiekhorst	2316.1910USWO	2566
23552	7590	01/03/2008	EXAMINER	
MERCHANT & GOULD PC P.O. BOX 2903 MINNEAPOLIS, MN 55402-0903			NGUYEN, CHAU N	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

**Application No.**

10/529,067

**Applicant(s)**

WIEKHORST, DAVID

**Examiner**

Chau N. Nguyen

**Art Unit**

2831

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 March 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 3/24/05.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_.

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 4, 7, 8, 11, 15, 16, 19, 25, and 26-30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Limitations in claim 4 are already recited in claim 1.

Claim 7, line 1, is "air" recited in this claim the same as "gas" recited in claim 6.

Claim 8, line 1, "closed-cell gas pockets" is not clear to "gas pockets" of what.

Claim 11, "first channels" is unclear to how these relate to first channel recited in claim 1.

Claim 15, line 1, "two insulated conductors" is unclear to how these relate to insulated conductor recited in claim 1.

Claim 16, line 1, before "channel" insert --first--.

Claim 16, line 2, change "pairs" to --pair--.

Claim 19 is considered vague and indefinite. Claim 1 recites "an outer peripheral surface of the conductor forming one side of the first channel". Claim 19 depends on claim 1 and calls for "an outer peripheral of the second insulation forming one side of the first channel". It does not further limit subject matter of the previous claim.

Claim 25, line 1, change "wire" to --cable--,

line 3, change "a conductor" to --conductors of each pair--,

line 4 change "the" to --each--,

line 6, change "the conductor" to --each conductor--,

line 8, change "of the twisted pairs" to --insulated conductor of each pair--,

line 9, after "than" insert --that of--, and change "of the twisted pairs" to --insulated conductor of each twisted pair--.

Re claim 26, a broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte*

*Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claim 26 recites the broad recitation "the component being selected from a conductor, insulation, a jacket, or combinations thereof to form a channeled component containing a gas", and the claim also recites "with the proviso that the channeled component consists of an insulation, an outer peripheral surface of a conductor forming one side of the first channel" which is the narrower statement of the range/limitation.

Claims 27-30 are included in this rejection because of dependency.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-11, 13, 14, and 20-24 are rejected under 35 U.S.C. 102(b) as being anticipated by Marsh (504,397).

Marsh discloses a wire comprising: a conductor extending along a longitudinal axis, an insulation (b) surrounding the conductor and at least one first channel (2) extending generally along the longitudinal axis to form an insulated conductor, wherein an outer peripheral surface of the conductor forms one side of the at least one first channel, the channel containing a gas (re claims 1 and 24). Marsh also discloses that at least a portion of the at least first channel is in the insulation (re claim 2), at least a portion of the at least first channel is in the conductor (re claim 3), an outer peripheral surface of the conductor forms one side of the at least one first channel (re claim 4), the gas is in contact with the conductor (re claim 5), the gas has a dielectric constant that differs from a dielectric constant of the insulation (re claim 6), the at least one first channel contains air (re claim 7), the gas is unassociated with closed-cell gas pockets (re claim 8), the gas has a dielectric constant of approximately one (air) (re claim 9), the insulated conductor has an overall dielectric constant of less than approximately 2.0 (it comprises structure and material as claimed) (re claim 10), the insulation includes a plurality of said first channels (re claim 11), the insulation surrounds at least one second

channel separate from the first channel (re claim 13), an outer jacket (c) surrounding the insulation (re claim 14), the cable of Marsh would have the properties and characteristics as recited in claims 20-22 since it comprises structure and material as claimed, and the first channel being arched (re claim 23).

5. Claims 1, 19, and 26-29 are rejected under 35 U.S.C. 102(b) as being anticipated by Wenworth (GB 725624).

Wenworth (Figure 4) discloses a wire comprising: a conductor extending along a longitudinal axis, an insulation (3) surrounding the conductor and at least one first channel (13) extending generally along the longitudinal axis to form an insulated conductor, wherein an outer peripheral surface of the conductor forms one side of the at least one first channel, the channel containing a gas, and a second insulation (2) being located between the conductor and the insulation (3) (re claims 1 and 19). Wenworth also discloses a wire comprising a component extending along a longitudinal axis and including at least one first channel, wherein the channeled component consists of an insulation (3) or a channeled jacket surrounding a core element which is an insulated conductor (re claims 26-29).

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 12, 15-18, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Marsh.

Marsh discloses the invention substantially as claimed except for the following: re claim 12, it would have been obvious to one skilled in the art to



choose suitable cross-sectional area for the channel of Marsh to meet the specific use of the resulting wire since it has been held that discovering the optimum value involves only routine skill in the art. *In re Aller*, 105 USPQ 233. Re claims 15, 16 and 25, Marsh teaches that a plurality of his insulated conductors, with channels having different cross-sectional area, can be used to form a cable, therefore it would have been obvious to one skilled in the art to use two of the insulated conductors of Marsh to form a twisted pair for being used in a data transmission cable since twisted pair is well-known in the art for being used in transmitting signal with reduced cross-talk. The modified twisted pair of Marsh would have a delay skew of no greater than 15 ns between the insulated conductors since they comprise structure and material as claimed (re claim 17). It would have been obvious to one skilled in the art to use solid copper for the conductor of Marsh since copper is a well-known conductor because of its highly conductivity.

9. Claims 26-28 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wenworth in view of Marsh.

Wenworth discloses a wire comprising a channeled jacket (3) surrounding a core element (insulated conductor). Wenworth does not disclose the core element including a channeled insulation (the insulation 2 is not being channeled). Marsh

discloses an insulated conductor comprising a channeled insulation. It would have been obvious to one skilled in the art to channel the insulation (2) of Wenworth to provide more air around the conductor so as to reduce the static capacity of the conductor as taught by Marsh.

### ***Double Patenting***

10. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

11. Claims 1, 2-9, and 24 are rejected on the ground of nonstatutory

obviousness-type double patenting as being unpatentable over claims 1 and 15 of

U.S. Patent No. 6,743,983. Although the conflicting claims are not identical, they are not patentably distinct from each other because claims 1 and 15 of Patent '983 disclose a wire with channel in the insulation and the channel containing air.

12. Claims 26-30 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 17 of U.S. Patent No. 7,214,880. Although the conflicting claims are not identical, they are not patentably distinct from each other because claim 17 of Patent '880 discloses a wire comprising a channeled component which is a channeled jacket surrounding a core element which can be an insulated conductor or a channeled insulation.

13. Claims 1-15 and 18-23 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 4, 6, 8-11, 15, 17, and 21-23 of U.S. Patent No. 7,214,880. Although the conflicting claims are not identical, they are not patentably distinct from each other because claims 4, 6, 8-11, 15, 17, and 21-23 of Patent '880 disclose a wire having channeled insulation, two of said insulated conductors twisted together to form a twisted pair, and the insulated conductor being able to pass the requirements and tests as claimed.

14. Claims 1, 15-17, and 25 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 38 of U.S. Patent No. 7,049,519. Although the conflicting claims are not identical, they are not patentably distinct from each other because claim 38 of Patent '519 discloses a cable comprising a twisted pair which is comprised of two insulated conductors, each having channeled insulation, wherein the cross-sectional area of the channel of one insulated conductor is different from that of the other insulated conductor.

#### ***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chau N. Nguyen whose telephone number is 571-272-1980. The examiner can normally be reached on Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diego F.F. Gutiérrez can be reached on 571-272-2800 ext 31. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Chau N Nguyen  
Primary Examiner  
Art Unit 2831

FIG. 1.

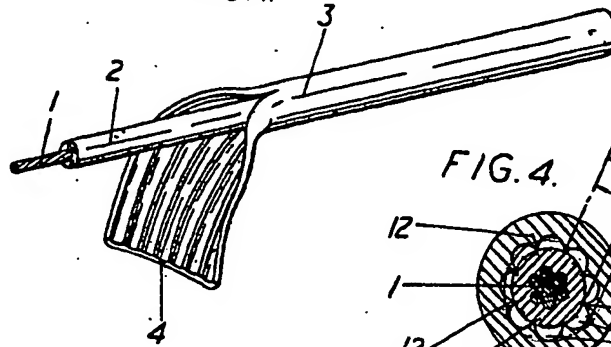
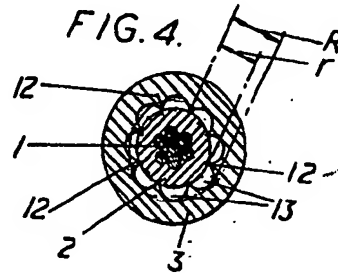


FIG. 4.



Single or multiple conductors

FIG. 2.

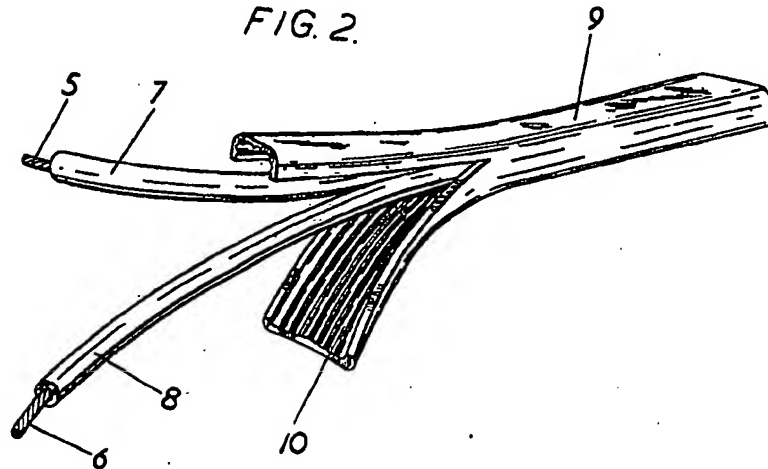


FIG. 3.

